CLAIMS

1. A differential gear apparatus for vehicles comprising an internal gear which is rotatably disposed, a sun gear which is rotatably disposed with an axis thereof aligned with that of said internal gear, and a planetary gear disposed between said internal gear and said sun gear such that said planetary gear can rotate about its own axis and can revolve,

wherein said planetary gear is provided with a first and a second gear part which are different in pitch circle diameter, said first gear part is meshed with said internal gear , and said second gear part is meshed with said sun gear.

2. A differential gear apparatus for vehicles according to claim 1, wherein if a pitch circle diameter of said internal gear is represented by D1, a pitch circle diameter of said sun gear, by D2, and a pitch circle diameters of said first and second gear parts of said planetary gear, by D3, D4, respectively, D1 / D3 $\geqq$ D2 / D4 can be established.

3. A differential gear apparatus for vehicles according to claim 1, wherein if a pitch circle diameter of said internal gear is represented by D1, a pitch circle diameter of said sun gear, by D2, and a pitch circle diameters of said first and second gear parts of said planetary gear, by D3, D4, respectively, D1 / D3 < D2 / D4 can be established.

4. A differential gear apparatus for vehicles according to claim 1, wherein said first gear part is larger than said second gear part in pitch circle diameter.

5. A differential gear apparatus for vehicles according to claim 4, wherein if a pitch circle diameter of said internal gear is represented by D1, a pitch circle diameter of said sun gear, by D2, and a pitch circle diameters of said first and second gear parts of said planetary gear, by D3, D4, respectively, D1 / D3 $\geqq$ D2 / D4 can be established.

6. A differential gear apparatus for vehicles according to claim 4, wherein if a pitch circle diameter of said internal gear is represented by D1, a pitch circle diameter of said sun gear, by D2, and a pitch circle diameters of said first and second gear parts of said planetary gear, by D3, D4, respectively, D1 / D3 < D2 / D4 can be established.

7. A differential gear apparatus for vehicles according to claim 1, wherein said first gear part is smaller than said second gear part in pitch circle diameter.

8. A differential gear apparatus for vehicles according to claim 7, wherein if a pitch circle diameter of said internal gear is represented by D1, a pitch circle diameter of said sun gear, by D2, and a pitch circle diameters of said first and second gear parts of said planetary gear, by D3, D4, respectively, D1 / D3 $\geqq$ D2 / D4 can be established.

9. A differential gear apparatus for vehicles according to claim 7, wherein if a pitch circle diameter of said internal gear is represented by D1, a pitch circle diameter of said sun gear, by D2, and a pitch circle diameters of said first and second gear parts of said planetary gear, by D3, D4, respectively, D1 / D3 < D2 / D4 can be established.